

Proposed Project

Upper Little Patuxent Watershed

Project Number: BF8

Subwatershed: Little Patuxent 5

Project Type: Riparian Buffer

Replacement / Reforestation

Project Size: Approx 600 feet in length for stream buffer / 3.34 acres total

Project Location: In Alpha Ridge Park off of Old Frederick Road.

Project Description: This project involves reforesting an open field next to Alpha Ridge Park. The area is a forest conservation site that was planted by volunteers. Field verification of the site indicated that currently the survival of the planted trees is approximately 25%. The area is wet so species tolerant of wet areas should be selected. At a minimum, the buffer along the stream channel to the south should be restored. The project would entail planting of native trees and shrubs to widen the existing buffer and restore the forest. Other portions of the park surrounding the fields and along Frederick Road could also be planted.



Use of volunteer assistance for site preparation, planting and necessary maintenance and monitoring of the site could help reduce overall project cost.

Project Benefits:

Stabilization	Additional trees and shrubs will help stabilize the stream bank along the southern edge of the project area.
Habitat	The project will provide additional terrestrial forest habitat.
Water Quality	A more established buffer will provide shading effects to reduce water temperature and will trap runoff and pollutants such as fertilizers from the park property.

Project Constraints:

Environmental	No environmental/permitting constraints are present.
Property Ownership	This property lies within the Alpha Ridge Community Park
Facility Access	Access to this site is obtained from secondary roads within Alpha Ridge Park.
Design / Construction	No major design or construction constraints are present. The design should incorporate native vegetation and a marked no-mow zone for understory development. Planning and design would need to be coordinated with Recreation and Parks to ensure the efforts are in line with the Parks overall management strategy.

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Cost Detail:

ITEM	QTY	UNITS	UNIT COST	TOTAL (Volunteer Labor)	TOTAL (Without Volunteer Labor)
Riparian Buffer Replacement					
Plant Material (trees)	3.34	AC	\$3,750.00	\$12,525	\$12,525
Plant Material (shrubs)	3.34	AC	\$2,725.00	\$9,102	\$9,102
Mulch, Tree Shelter	2,273	PLANTS	\$6.00	\$13,640	\$13,640
Cost to Plant	2,273	PLANTS	\$6.00	\$0	\$13,640
Site Preparation (volunteer)		AC	\$0.00	\$0	\$0
Basic Site Maintenance and Monitoring (volunteer)		AC	\$0.00	\$0	\$0
Direct Construction Subtotal				\$35,266	\$48,906
Base Construction Cost				\$35,266	\$48,906
Mobilization (10% of Directs or \$1,000)				\$0	\$0
Subtotal				\$35,266	\$48,906
Contingency (30%)				\$10,580	\$14,672
Construction Subtotal				\$45,846	\$63,578
Env't'l Studies / Permitting (5% of Construction or \$1,000)				\$0	\$0
Landscape Design and Surveys (25% of Construction or \$5,000)				\$0	\$0
Total Capital Cost				\$45,846	\$63,578
Operations and Maintenance Costs					
Annual Maintenance	5	Percent		\$1,763	\$2,445
Discount Rate	5	Percent			
Expected Life	5	Years			
Net Present Value of Annual Costs				\$7,634	\$10,587
Life Cycle Cost				\$53,500	\$74,200

Cost Notes and Assumptions:

Project costs were derived for both volunteer and paid labor. In calculating costs for volunteer labor it is assumed that local volunteer organizations could accomplish the project with County assistance and oversight. Site preparation, planting and any necessary maintenance and monitoring would be conducted by volunteers.

Planting density is planned at 1 tree or shrub planted at 8 foot intervals for a total of 681 plants per acre.

Size and species of trees and shrub plant material is based on approved Howard County Recreation and Parks information and is typically a 3-4 foot plant. Use of more mature or more immature plant material would affect the planting density and cost per plant.

Cost of plant material is based on 2009 survey of local and regional wholesale native plant nurseries. Plant material (seedlings) may also be obtained from the Maryland Department of Natural Resources, State Forest Tree Nursery at a much reduced cost or through Howard County's Stream ReLeaf program at no cost.